Mathematics Target Related Expectations (TReE)

Pathway 1 (Target Grade 1-3)	Pathway 2 (Target Grade 4-6)	Pathway 3 (Target Grade 7-8)
3 Expressions, functions and formulae	**3 Expressions, functions and formulae**	**3 Equations, functions and formulae**
Find outputs of simple functions.	Find outputs of simple functions written in words and using symbols.	Simplify expressions by collecting like terms.
Describe simple functions using words or symbols.	Describe simple functions in words.	Construct expressions using four operations.
Simplify expressions.	Simplify simple algebraic expressions by collecting like terms.	Substitute into formulae.
Write expressions given a description in words.	Use arithmetic operations with algebra.	Derive formulae from a description.
Substitute positive integers into simple formulae written in words.	Use brackets with numbers and letters.	Expand expressions involving brackets.
Substitute integers into simple formulae written in letter symbols.	Simplify more complicated expressions by collecting like terms.	Substitute into expressions involving powers.
Write simple formulae using words and letter symbols.	Write expressions from word descriptions using addition, subtraction and multiplication.	Factorise an algebraic expression.
14 Expressions and equations	Write expressions to represent function machines.	**7 Equations**
Simplify expressions by collecting like terms.	Substitute positive integers into simple formulae written in words.	Write and solve simple equations.
Find outputs and inputs of function machines.	Substitute integers into formulae written in letter symbols.	Solve problems using equations.
Construct functions.	Identify variables and use letter symbols.	Write and solve two-step equations.
Solve simple equations and check the solution is correct.	Write simple formulae using letter symbols.	Write and solve equations that have brackets, letters on both side, and that include x^2 and x3
Understand the difference between an expression and an equation.	Identify the unknowns in a formula and a function.	**10 Sequences and graphs**
Use brackets with numbers and letters.	Identify formulae and functions.	Work out the terms of an arithmetic sequence using the term-to-term rule.
4 Graphs		Work out a given term in a simple arithmetic sequence.
Read information from real-life graphs.		Work out and use expressions for the n th term in an arithmetic sequence.

Algebra

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4 Graphs	**13 Expressions and equations**	**10 Sequences and graphs**
Draw graphs to show change over time.	Understand and simplify algebraic powers.	Generate sequences and predict how they will continue.
Write the coordinates of points on a grid.	Substitute values into formulas involving powers.	Recognise geometric sequences and work out the term-to-term rule.
Plot points from their coordinates.	Expand brackets.	Use positive and negative coordinates.
Plot graphs of simple functions.	Make and simplify algebraic expressions.	Work out the midpoint of a line segment.
Draw line graphs to show relationships between quantities.	Write expressions and formulae and change the subject of a formula.	Draw straight-line graphs.
Read values from graphs.	Simplify expressions involving brackets, use rules for indices and factorise expressions.	Recognise straight-line graphs parallel to the axes.
18 Sequences	Factorise expressions.	Recognise graphs of $y = x$ and $y = -x$.
Recognise, describe and continue number sequences.	Find the inverse of a function.	**20 Graphs**
Find and use pattern and term-to-term rules.	Solve simple equations using function machines.	Plot straight-line graphs.
Use the term-to-term rule to work out terms in a sequence.	Solve real life problems using equations.	Find the y-intercept of a straight-line graph.
Describe sequences arising in real life.	Solve two-step equations using function machines.	Find the gradient of a straight-line graph.
Describe and continue special sequences.	Solve equations using the balancing method.	Plot graphs using the gradient and y-intercept.
Recognise a geometric sequence.	Solve equations with the unknown number on both sides.	Use $y = mx + c$.
Generate terms of a sequence using the position-to-term rule.	**14 Real-life graphs**	Find the equation of a straight-line graph.
Find the nth term of a simple sequence.	Reading values from conversion graphs.	Identify parallel and perpendicular lines.
	Plotting conversion graphs from a table of data.	Find the inverse of a linear function.
	Plotting distance-time graphs from descriptive text and solve problems.	Plot and use non-linear graphs.
	Plotting and interpreting line graphs from tables of data.	**14 Real life graphs**
	Describing trends and making predictions based on information presented graphically.	Recognise when values are in direct proportion.
	Draw, use and interpret conversion graphs, distance-time graphs and real-life graphs.	Plot graphs and read values to solve problems.

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		14 Real-life graphs	**14 Real life graphs**
		Discuss and interpret linear and non-linear graphs.	Interpret graphs from different sources.
		Using graphs to solve problems and make predictions.	Draw and interpret distance–time graphs and Use distance–time graphs to solve problems.
		9 Sequences and graphs	Understand when graphs are misleading.
		Continue sequences arising from practical contexts and use them to answer questions.	
		Continue and describe special sequences.	
		Generate sequences using more complex (two-step) term-to-term rules.	
		Write the nth term of a sequence using algebra.	
		Recognise the relationships between term-to-term rules, position-to-term rules and nth terms.	
		Recognise an arithmetic sequence and find the starting number and common difference.	
		Read, generate and plot coordinates.	
		Recognise geometric shapes drawn on coordinate grids and find coordinates of points using geometric information.	
		Find and calculate the midpoints of a line segment.	
		Recognise, name and plot straight line graphs parallel to the x- or y-axis.	
		Generate coordinates that satisfy a simple linear rule and plot the graph in the first quadrant.	
		Read values from a graph.	
		Recognise, name and plot the graphs of y = x and y = −x.	
		18 Straight-line graphs	
		Recognising when values are in direct proportion.	
		Plotting graphs and reading values to solve problems.	
		Plot a straight-line graph and work out its gradient.	
		Plot the graphs of linear functions.	
		Find midpoints of line segments.	
		Write the equations of straight line graphs in the form y = mx + c	
		Identify and describe practical examples of direct proportion.	
		Solve problems involving direct proportion with or without a graph.	